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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,139

02/06/2006

Jean Michel Martin

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EXAMINER

PILKINGTON, JAMES

ART UNIT

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3656

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/567,139	<b>Applicant(s)</b> MARTIN ET AL.	
	<b>Examiner</b> JAMES PILKINGTON	<b>Art Unit</b> 3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/6/06 9/7/07 12/19/07 11/19/08</u> . | 6) <input type="checkbox"/> Other: _____  |



## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement filed 9/7/07 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. Neither JP 2777750 and the NPL document have been provided.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: A, B, C and D. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Objections***

4. Claims 14 and 15 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 14 and 15 repeat limitations found in both claims 1 and 10.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 8 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 8 and 9 recite "the range of 0.05 to 3.0% relative to a total amount...". It is not clear how the total amount is being measured to determine the range. Is the amount measured in volume or mass? The range can be very different if expressed in volume and compared to the same composition when expressed in mass.

***Claim Rejections - 35 USC § 102***

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7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-10 and 12-15 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Konishi, USP 6,969,198.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 2, 7, 8, 10 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pope, USP 6,655,845 in view of Rubin, UPS 5,064,547.

Pope discloses a low-friction sliding mechanism wherein:

- the DLC coated sliding member (races in Figures 2H-1, 2H-2 and 2K-1) is formed by coating diamond-like carbon on a base material (polycrystalline diamond, PDC);
- the sliding member (roller in Figure 2K-1) is formed with at least one kind of material selected from a group consisting of a metal material, a non-metal material and a coated material obtained by coating a thin film on a

surface of the metal material or the non-metal material (roller is coated with PDC (clm 2)

Pope does not disclose the use of a low-friction agent composition that contains at least one kind selected from a group consisting of an oxygen-containing organic compound (C) and an aliphatic amine compound (D) between the two sliding members, wherein the oxygen-containing organic compound is a carboxylic acid and is contained in the range of 0.05 to 3.0% relative to the total amount of low-friction agent composition.

Rubin teaches a low-friction agent composition (lubricant) that contains an oxygen-containing organic compound which is a carboxylic acid (dicarboxylic acid, dimer acids, polycarboxylic acid, see C6/L40-68) and is contained in a range of 0.05 to 3.0% (C4/L50-59) for the purpose of providing a lubricant with corrosion inhibiting properties (C5/L66-68).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pope and provide a low-friction agent composition that contains an oxygen-containing organic compound of carboxylic acid in a range of 0.05-3% of the total amount of low-friction agent composition, as taught by Rubin, for the purpose of providing a lubricant with corrosion inhibiting properties.

11. Claims 1, 2, 9, 10 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pope, USP 6,655,845 in view of Buckley III, UPS 5,108,633.

Pope discloses a low-friction sliding mechanism wherein:

- the DLC coated sliding member (races in Figures 2H-1, 2H-2 and 2K-1) is formed by coating diamond-like carbon on a base material (polycrystalline diamond, PDC);
- the sliding member (roller in Figure 2K-1) is formed with at least one kind of material selected from a group consisting of a metal material, a non-metal material and a coated material obtained by coating a thin film on a surface of the metal material or the non-metal material (roller is coated with PDC (clm 2))

Pope does not disclose the use of a low-friction agent composition that contains at least one kind selected from a group consisting of an oxygen-containing organic compound (C) and an aliphatic amine compound (D) between the two sliding members, wherein the aliphatic amine compound has a hydrocarbon group having 6-30 carbon atoms and is contained in the range of 0.05 to 3.0% relative to the total amount of low-friction agent composition.

Buckley III teaches a low-friction agent composition (lubricant, C4/L36-47) that contains an aliphatic amine compound (C12/L5-37), wherein the aliphatic amine compound has a hydrocarbon group having 6-30 carbon atoms (C6-C12 disclosed, see C12/L5-37) and is contained in a range of 0.05 to 3.0% (C12/L5-37) for the purpose of providing dispersancy and/or detergency to the lubricant (C4/L36-47).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pope and provide a low-friction agent composition that contains an aliphatic amine compound, wherein the aliphatic amine compound has a



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hydrocarbon group having 6-30 carbon atoms and is contained in a range of 0.05 to 3.0%, as taught by Buckley III, for the purpose of providing dispersancy and/or detergency to the lubricant.

12. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pope, USP 6,655,845 in view of Rubin, UPS 5,064,547 and further in view of Veerasamy, USP 7,067,175 (filed 10/10/03)

Pope in view of Rubin as applied above does not disclose that the DLC has a hydrogen content of 20 percent or less, in particular an a-C diamond like carbon with no hydrogen.

Veerasamy teaches a DLC which is an a-C diamond like carbon (ta-C) which does not contain hydrogen (C8/L35-36) for the purpose of repelling water and reducing corrosion (C1/L15-21).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pope in view of Rubin and provide for the DLC to have a hydrogen content of 20 percent or less, in particular an a-C diamond like carbon with no hydrogen, as taught by Veerasamy, for the purpose of repelling water and reducing corrosion.

13. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pope, USP 6,655,845 in view of Buckley III, UPS 5,108,633 and further in view of Veerasamy, USP 7,067,175 (filed 10/10/03)

Pope in view of Buckley III as applied above does not disclose that the DLC has a hydrogen content of 20 percent or less, in particular an a-C diamond like carbon with no hydrogen.

Veerasamy teaches a DLC which is an a-C diamond like carbon (ta-C) which does not contain hydrogen (C8/L35-36) for the purpose of repelling water and reducing corrosion (C1/L15-21).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Pope in view of Buckley III and provide for the DLC to have a hydrogen content of 20 percent or less, in particular an a-C diamond like carbon with no hydrogen, as taught by Veerasamy, for the purpose of repelling water and reducing corrosion.

### ***Double Patenting***

14. Claims 1-10 and 12-15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 5, 10 and 11 of U.S. Patent No. 6,969,198. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant applicant are more generic and fully encompass the scope of claims 1, 2, 5, 10 and 11 of the previously allowed case.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES PILKINGTON whose telephone number is (571)272-5052. The examiner can normally be reached on Monday - Friday 7-3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571)272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JAMES PILKINGTON/  
Examiner, Art Unit 3656  
6/22/09

/Richard WL Ridley/  
Supervisory Patent Examiner, Art Unit 3656